

## SECTION 541

### BRICK MASONRY STRUCTURES

#### 541.1 GENERAL

Work to be done under this section shall consist of the construction of brick masonry walls incorporated into and being part of a building or structure, and free standing and retaining walls, constructed of brick masonry units. Wall heights, thickness, pilaster locations, reinforcing, length, and other data shall be as shown on the plans.

#### 541.2 REFERENCES

541.2.1 This Publication:  
SECTION 106  
SECTION 108

#### 541.3 MATERIALS

Unless otherwise specified, brick masonry shall be constructed of Grade MW brick as described in Section 108 and cement mortar as described in Section 106.

#### 541.4 BRICKLAYING

541.4.1 The amount of wetting will depend on the rate of absorption of the brick at the time of laying. When being laid, the brick shall have suction sufficient to hold the mortar and to delete the excess water from grout and shall be sufficiently damp so that the mortar will remain plastic enough to permit the brick to be leveled and plumbed after being laid without breaking the mortar bond.

541.4.2 Brick work shall be plumb, level, straight, and true to dimensions shown on the plans. Such work shall start, where feasible, at the least important corner of wall and the CONTRACTOR shall request an early inspection of the work by the ENGINEER. All pattern work, bonds, or special details indicated on the drawings shall be accurately and uniformly executed. Face bonding shall be as shown on the drawings but, if not shown, shall be running bond for standard size brick and approximately 1/3 bond for oversize brick and approximately 1/4 bond for modular brick. All bed and head joints shall be solidly filled with mortar at the time of laying.

541.4.3 Unless otherwise shown or detailed on the plans, the thickness of mortar joints shall be uniformly 1/2 inch.

541.4.4 Face brick shown to be laid in stack bond shall have the center lines of vertical joints plumb and the brick laid

equidistant from the center line with not more than 1/8 inch variation in the width of these joints. The brick in each separate "stack" shall not vary more than 1/8 inch in length, but the separate "stack" may vary in width of stacks.

541.4.5 When mortar has slightly stiffened, solidly fill with mortar all interstices between bricks and between bricks and other materials and also fill all line pin holes. Jointing and tooling shall be done before mortar has stiffened.

541.4.6 Masonry to be plastered shall have all mortar joints trowel cut flush.

541.4.7 Masonry to be painted and not shown to be tooled or raked shall have all joints carefully and evenly struck with a trowel.

541.4.8 Masonry to be left exposed without paint or plaster shall have all mortar joints carefully and evenly tooled with a metal jointing tool of a type as approved by the ENGINEER. Masonry shown or indicated to have raked joints shall have the joints raked out 3/8 inch deep, then tooled with a flat jointing tool, then brushed with a stiff nonmetallic brush. Sack-rubbing or wiping finished masonry with rags will not be permitted.

#### 541.5 PROTECTION

Protect all sills, ledges, offsets, other materials, etc. from droppings of mortar during construction. Protect the tops of all unfinished masonry from rain by using water-repellent covering, such as roofing felt or tar paper. Protect the surfaces of wall, piers, etc. from mortar droppings or splashes at scaffold heights.

#### 541.6 CURING

Finished masonry shall not be wetted except when exposed to extreme hot weather or hot wind, and then only by using a nozzle-regulated fog spray sufficient only to dampen the face but not of such quantity to cause water to flow down over the masonry.

#### 541.7 REINFORCED GROUTED BRICK MASONRY

541.7.1 Mortar in all bed joints shall be held back 1/4 inch from edges of brick adjacent to grout space or shall be beveled back and upward from grout space. The thickness of head and bed joints shall be as hereinbefore specified

or shown. Head joints specified or shown to be less than 5/8 inch thick shall be solidly filled with mortar as bricks are laid. Head joints 5/8 inch or more in thickness may have mortar sufficient only to form dams to retain the grout. Bed joints shall not be deeply furrowed with the trowel. All brick shall be shoved at least 1/2 inch into place. One outer tier may be carried up not more than 12 inches before grouting, but the other tier shall be not more than 4 inches high before placing the grout.

541.7.2 Grout shall be thoroughly agitated and mixed to eliminate segregation before being placed. All interior grout spaces shall be filled with grout and immediately puddled or swished with a stick or rod (not a trowel) sufficiently to cause the grout to flow into all interstices between the bricks and to fully encase the reinforcing steel. Wherever possible, grouting shall be done from the inside face of exterior masonry. If any grout contacts the finished masonry, it shall be immediately removed and the surface cleaned.

541.7.3 In masonry which is more than 2 tiers in thickness, including pilasters and columns, the interior shall be of whole or half bricks placed into grout with not less than 3/4 inch of grout surrounding each brick or half brick. Except at the finish course, all grout shall be stopped 1 1/2 inches below the top of both outer tiers.

541.7.4 Where necessary to stop off a longitudinal run of masonry, it shall be done only by racking back 1/2 brick length in each course and stopping grout 2 inches back of the rack. Tothing will not be permitted unless special approval is given by the ENGINEER.

541.7.5 Reinforcing steel shall be accurately placed in strict accordance with the drawings and notes thereon. Vertical steel shall be held firmly in proper position. Where necessary, this shall be done by means of frames or other suitable devices. Horizontal steel may be placed as the work progresses.

#### 541.8 MEASUREMENT AND PAYMENT

When the Bid Proposal contains items for construction of free standing brick masonry walls and brick masonry retaining walls, the unit of measurement shall be the linear foot for the various designated wall heights and wall thickness. Otherwise the work will have been incorporated as part of a lump sum bid item for a building or structure.